acid) and casting a 6 mil thick layer on bare aluminum. The coating was cured at 160 °F for two hours and allowed to stand at ambient overnight.

The film adhered well to cold-rolled steel, aluminum, polyurethane (Tecoflex, Thermedocs), ether amide copolymer (PEBAX, Elf-Atochem), polyester (Hyrel, DuPont) and corona and plasma treated polyethylene and polyethylene terephthalate. The wetting properties were tested as described above and the slip of the coating was determined by touch as made, after rub test(s) and standing overnight. The average static resistance was determined as described above. Results are reported in Table 3. The results shown in Table 3 also indicate that there is a point at which the hydrophilic coating loses its combined advantageous slip and durability. Polyurethane systems having an equivalent weight of 1753 and 2805 provided both durability and slip over time. However, with increasing equivalent weight (corresponding to decreasing crosslink density in the product hydrophilic coating), the film loses strength and durability. Films having an equivalent weight of 4315 are borderline acceptable.

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Table 3

Sample No.	polyurethane (source)	eq. wt. (g/eq)	viscosity (cps)	test conditions	wetting	feel	ave. static resistance (lb.)
3-106A	R-9603 (Zeneca)	1753	734	fresh cured	good	slick	0.168
				30 rubs	good	slick	0.259
				100 rubs	good	slick	0.317
				overnight	good	slick	0.311
3-106D	R-9621 (Zeneca)	2805	-	fresh cured	good	slick	0.052
				30 rubs	good	slick	0.080
				100 rubs	good	slick	0.173
3-106B	R972 (Zeneca)	4315	706	fresh cured	good	slick	0.181
				30 rubs	good	slick	0.311
				100 rubs	good	slick	0.316
				overnight	moderate	slick	0.301
3-C	XW121 (Bayer)	8630	706	fresh cured	good	slick	0.197
				30 rubs	good	slick	0.435
				100 rubs	good	slick	0.576 film tore

Example 4 This example describes the preparation of a variety of polyurethane/poly(vinylpyrrolidone) coating compositions using a melamine formaldehyde crosslink agent. This example also describes the formation of a hydrophilic coating therefrom.

An aqueous coating composition was prepared using polyurethanes having various equivalent weights. To a solution containing polyurethane was added Plasdone K-90 (poly(vinylpyrrolidone), MW 1,000,000, ISP Chemical) in a 1/3 ratio to obtain a composition having a total of 10 wt% solids.

A hydrophilic coating was prepared by adding an melamine formaldehyde crosslink agent (hexamethoxy melamine/formaldehyde, Cymel 303, Cytec Corp.) at 2.0 times the stoichiometric level (relative to eq. wt. acid). The stoichiometric